ATLANTA BEDS 3/4

STRAIGHT STRAND PULL

$$\frac{\text{BED LENGTH} \times (\text{LOAD} - \text{PRELOAD})}{(\text{MODULUS OF ELASTICITY}) \times \text{AREA}} = \text{STRAIGHT STRAND PULL}$$

$$\frac{4972\text{ "} \times (43{,}943\text{ Lbs.} - 4000\text{ Lbs.})}{28.6 \times 10^6\text{ Lbs/In}^2 \times 0.217\text{ in.}^2}$$

= 32.00" (+5% = 33.60") (−5% = 30.40")
(⅝" CHUCK SLIP NOT INCLUDED)

STRAIGHT STRAND JACKING LOAD = 44,723 Lbs.
(INCL ⅝" CHUCK SLIP)

ATLANTA BEDS 3/4

DRAPE STRAND PULL – (3 BEAMS PER POUR)
DEFLECTION: .364 " x (4) = 1.46 "
STRAIGHT STRAND – TOTAL DEFLECTION = DRAPE STRAND PULL
DRAPE STRAND PULL = 30.54 " (+5% = 32.07 ")(−5% = 29.01 ")
(⅝" CHUCK SLIP NOT INCLUDED)
DRAPE STRAND JACKING LOAD = 42901 Lbs. (INCL ⅝" CHUCK SLIP)

ATLANTA BEDS 5/6

STRAIGHT STRAND PULL

$$\frac{\text{BED LENGTH} \times (\text{LOAD} - \text{PRELOAD})}{(\text{MODULUS OF ELASTICITY}) \times \text{AREA}} = \text{STRAIGHT STRAND PULL}$$

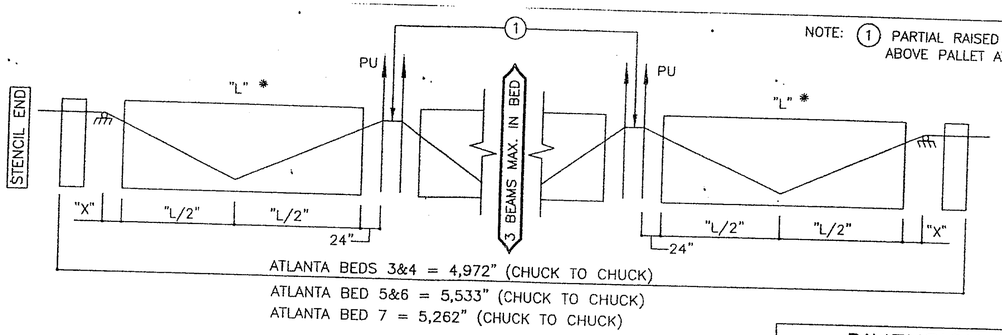
$$\frac{5533\text{ "} \times (43{,}943\text{ Lbs.} - 4000\text{ Lbs.})}{28.6 \times 10^6\text{ Lbs/In}^2 \times 0.217\text{ in.}^2}$$

= 35.61" (+5% = 37.39") (−5% = 33.83")
(⅝" CHUCK SLIP NOT INCLUDED)

STRAIGHT STRAND JACKING LOAD = 44,644 Lbs.
(INCL ⅝" CHUCK SLIP)

ATLANTA BEDS 5/6

DRAPE STRAND PULL – (3 BEAMS PER POUR)
DEFLECTION: .364 " x (4) = 1.46 "
STRAIGHT STRAND – TOTAL DEFLECTION = DRAPE STRAND PULL
DRAPE STRAND PULL = 34.15 " (+5% = 35.86 ")(−5% = 32.44 ")
(⅝" CHUCK SLIP NOT INCLUDED)
DRAPE STRAND JACKING LOAD = 43006 Lbs. (INCL ⅝" CHUCK SLIP)



NOTE: (1) PARTIAL RAISED POSITION (P.R.P) IS 11" ABOVE PALLET AT END OF BEAM

ATLANTA BEDS 3&4 = 4,972" (CHUCK TO CHUCK)
ATLANTA BED 5&6 = 5,533" (CHUCK TO CHUCK)
ATLANTA BED 7 = 5,262" (CHUCK TO CHUCK)

"x" DIMENSION DOES NOT AFFECT ELONGATION CALCULATIONS.
(2'–0" PREFERRED)

BT–63/ SPANS 6 THRU 8
ATLANTA BEDS 2, 3/4, 5/6, & 7
4 BMS MAXIMUM PER POUR
* CASTING LENGTH

DIMENSION CONTROL

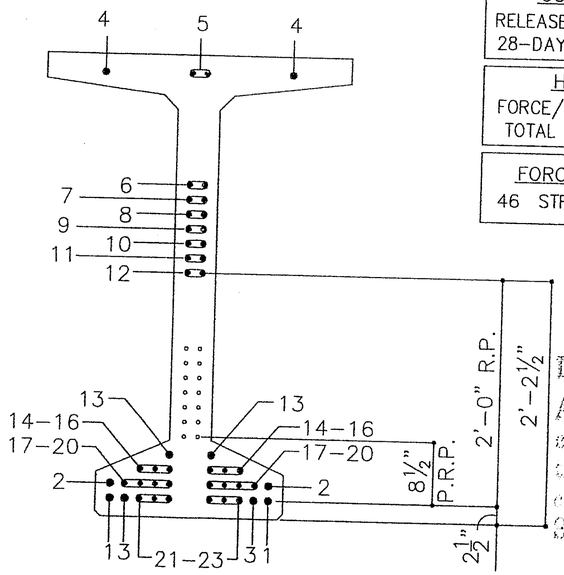
PIECE MK	"L"	"L/2"
2–6.1 THRU 2–6.7	119'–7"	59'–9½"
2–7.1 THRU 2–7.7	119'–7"	59'–9½"
2–8.1 THRU 2–8.7	119'–1"	59'–6½"

FABRICATION NOTE:
TOTAL DEFLECTION FOR 2 BEAMS OR FEWER IS LESS THAN 1". THEREFORE USE STRAIGHT STRAND CALCS FOR DRAPED STRANDS

NOTE:
GROUP DETENSIONING STARTS AT OUTSIDE & WORKS TOWARD ℄ OF BEAM.

RELEASE HOLDDOWNS AFTER DETENSIONING GROUP #12.

NOTE:
1 PICKUP POINT BETWEEN BEAMS MAY BE USED IF 1 HOLD–DOWN IS USED OR HOLD–DOWN FORCE IS LESS THAN 3,750#'s PER STRAND AND 24,000#'s TOTAL.



CONCRETE STRENGTH
RELEASE STRENGTH = psi 7,600
28–DAY STRENGTH = psi 8,200

HOLD DOWN FORCES
FORCE/STRAND = 3,098 Lbs. MAX.
TOTAL FORCE = 43,371 Lbs. MAX.

FORCE CENTER OF GRAVITY
46 STRAND @ ENDS = 17.98 "

DETENSIONING SEQUENCE
SPANS 6 THRU 8
ENGLISH BT–63

• = 46 STRANDS – 0.6"ø REG. Low–Relaxation (A=0.217 in ²) @ 43,943# EA

◦ = PARTIAL RAISED POSITION (P.R.P.)

NOTE:
1. FINAL DEFLECTION IS THE DEFLECTION DUE TO THE RAISED POSITION MINUS THE DEFLECTION DUE TO PARTIAL RAISED POSITION AT 8½".
2. R.P = RAISED POSITION
3. P.R.P. = PARTIAL RAISED POSITION

DATE: 25-Nov-2013

Approved in general. Details not checked. This approval shall not relieve the Contractor of any responsibility for conformity with the contract Plans and Specifications.

Georgia DOT
Office of Bridge Design
By: SKG

ATLANTA BEDS 2

STRAIGHT STRAND PULL

$$\frac{\text{BED LENGTH} \times (\text{LOAD} - \text{PRELOAD})}{(\text{MODULUS OF ELASTICITY}) \times \text{AREA}} = \text{STRAIGHT STRAND PULL}$$

$$\frac{5{,}262\text{ "} \times (43{,}943\text{ Lbs.} - 4000\text{ Lbs.})}{28.6 \times 10^6\text{ Lbs/In}^2 \times 0.217\text{ in.}^2}$$

= 33.87" (+5% = 35.56") (−5% = 32.17")
(⅝" CHUCK SLIP NOT INCLUDED)

STRAIGHT STRAND JACKING LOAD = 44,680 Lbs.
(INCL ⅝" CHUCK SLIP)

DRAPE STRAND PULL – (3 BEAMS PER POUR)
DEFLECTION: .364 " x (4) = 1.46 "
STRAIGHT STRAND – TOTAL DEFLECTION = DRAPE STRAND PULL
DRAPE STRAND PULL = 32.41 " (+5% = 34.03 ")(−5% = 30.79 ")
(⅝" CHUCK SLIP NOT INCLUDED)
DRAPE STRAND JACKING LOAD = 42958 Lbs. (INCL ⅝" CHUCK SLIP)

APPROVED ☐ **REVISE AND RESUBMIT**

SHOP DRAWING CORRECTIONS OR COMMENTS MADE DURING REVIEW DO NOT RELIEVE THE CONTRACTOR OF COMPLIANCE WITH DRAWINGS AND SPECIFICATION REQUIREMENTS. THIS CHECK ONLY REVIEWS GENERAL CONFORMITY WITH THE PROJECT DESIGN CONCEPT AND GENERAL COMPLIANCE WITH THE CONTRACT DOCUMENTS. CONTRACTOR'S PERFORMANCE DUTIES ARE STATED IN THE CONTRACT DOCUMENTS, AND ARE NOT MODIFIED BY THIS REVIEW OR COMMENTS MADE ON THESE SHOP DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF QUANTITIES AND DIMENSIONS, FABRICATION PROCESS SELECTION, CONSTRUCTION TECHNIQUES, AND WORK COORDINATION AND PERFORMANCE OF ALL TRADES.

BROWDER + LEQUIZAMON AND ASSOCIATES, INC.
DATE 11/21/13 BY PAL

ATLANTA BED 2
(1 BEAM POUR ONLY)

STRAIGHT STRAND PULL

$$\frac{\text{BED LENGTH} \times (\text{LOAD} - \text{PRELOAD})}{(\text{MODULUS OF ELASTICITY}) \times \text{AREA}} = \text{STRAIGHT STRAND PULL}$$

$$\frac{2856\text{ "} \times (43{,}943\text{ Lbs.} - 3000\text{ Lbs.})}{28.6 \times 10^6\text{ Lbs/In}^2 \times 0.217\text{ in.}^2}$$

= 18.84" (+5% = 19.78") (−5% = 17.90")
(⅝" CHUCK SLIP NOT INCLUDED)

STRAIGHT STRAND JACKING LOAD = 45,301 Lbs.
(INCL ⅝" CHUCK SLIP)

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	SPT00-7073-00(001)	2F	21

DRAWING NO. 35-002F
BRIDGE SHEET #2F OF 21

DIMENSION UNIT IS Inches U.N.O.

REV. No.	DATE	DETAILS
1	-	-
2	-	-

SCP STANDARD CONCRETE PRODUCTS
6 HATCHCOVER Rd
SAVANNAH,GA,31404
TEL : (912) 233-8263
FAX : (912) 236-4689

SHEET DETAILS:
ELONGATION CALCS & DETENSIONING SEQUENCE – SPANS 6 THRU 8

CONTR./PROJ. No.: SPT00–7073–00(001)
CONTRACTOR: ROGERS BRIDGE
COUNTY, STATE & PROJECT DETAILS:
WILLIAM FEW PARKWAY OVER UCHEE CREEK
COLUMBIA CO., GEORGIA

DRAWN BY: VP
DESIGNED BY: GA DOT / BROWDER & LeGUIZAMON AND ASSOC. / SCP
DATE: 09/13/13
CHECKED BY: FNS
SHEET C2 OF C2
SCALE: NONE
JOB No. A01632 (463